

REMARKS/ARGUMENTS

Currently, Claims 1 through 28 are pending in the Application. All claims were rejected in a final rejection issued on July 21, 2006.

Applicants are filing this Request for Continuing Examination along with an Amendment to the Claims to place the claims in a condition for allowance.

Claims 19 and 21 are objected to because of informalities. These informalities have been corrected in the current Amendment to the Claims.

Claims 7 and 24 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with a written description requirement. The Examiner asks how does a ring displace radially. Claims 7 and 24 have been amended. The new language replaces the term “contracted” with the phrase “compressed causing it to be expanded” radially. This is in compliance with the statement made by the Examiner of what is appropriate.

Claims 1 – 28 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. Claims 1 and 21 have been amended to replace the term “pre-stressed elastic element” with the term “radially pre-stressed elastic element”. It is respectfully contended that this clarifies the manner in which the elastic element is pre-stressed.

Claim 22 has been amended to add the phrase “formed as a series of steps into” directly modifying a saw-tooth-like profile (62). It is respectfully contended that this sufficiently defines and clarifies the term saw-tooth-like profile.

Claims 13, 18 – 20, 21, 23 and 25-28 are rejected under 35 U.S.C. §102(b) as being anticipated by Giandinoto et al., U.S. Patent No. 3,848,477. This rejection and the additional rejections under 35 U.S.C. §103 are addressed by the Amendments to the Claims. Specifically, claims 1 and 21 have been amended to more completely define the integral part formed by the elastic element (48) and component (44). The combination integral part forms “a wedge-shaped component that causes the elastic element to displace in a radial direction thereby maintaining an axial force sufficient to eliminate shaft longitudinal play”. Similar terminology has been added to independent claim 21.

It is respectfully contended that the claims as amended are now patentably distinct from the prior art. The ‘477 reference (Giandinoto) discloses a device to counteract axial thrust using a wedge-shaped element that pushes radially against a spring. The ‘477 patent does not disclose or suggest an elastic element embodied as an integral part of a wedge-shaped component. The wedge (26) pushes against a coil spring (36), so that the combination of the annular spring with the wedge (26) adjusts for axial play. Therefore, Giandinoto requires two parts and does not act or resist axial forces with the same form of wedge-shaped integral components that are recited in the amended claims. It is respectfully contended that the attachment of the spring (36) to the block (26) of Giandinoto does not form an integral part as recited in claim 1. There is no suggestion or motivation in Giandinoto to form the two elements into an integral part.

Furthermore, with regard to independent claim 21, the two-step wedge that forms a striking surface (62) of component (44) is not disclosed or suggested in the prior art with a structure that functions in the manner of the structure as recited in claim 21.

Claims 1, 5, 6, 8-12 and 14 are rejected under 35 U.S.C. §103(a) as being anticipated by Giandinoto in view of U.S. Patent No. 6,352,006 (Kurashita). It is contended that Kurashita teaches an element and a component being formed as a single part for the purpose of providing a return device that can work when a load is applied.

It is respectfully contended that neither Kurashita or Giandinoto include any suggestion or motivation to combine these two references. The leaf spring (9) in Kurashita acts to apply force in the longitudinal or axial direction. It does not apply a force in a radial direction. It is not seen how it would be obvious to one skilled in the art to combine these two or even that a combination would form an integral part as a wedge-shaped component as recited in claims 1 and 21.

Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Giandinoto in view of Kurashita and further in view of European Patent No. 0563410 (Gunner et al.). It is contended that Gunner teaches at least one stopping face (41) having a saw-tooth profile (Fig. 2) for the purpose of providing better interaction between surfaces and to reduce the wear between the wedge faces. It is respectfully contended that Fig. 2 does not disclose a saw-tooth profile of the structure that is claimed and disclosed in the subject patent application. Rather, Gunner discloses a surface profile in the form of a sine wave.

Claims 3 and 4 are rejected under 35 U.S.C. §103(a) as being unpatentable over Giandinoto in view of Kurashita and further in view of U.S. Patent No. 4,212,379 (Zoino). It is contended that Zoino teaches at least one stopping face (27) being embodied as cone-shaped and having stair steps (58) for the purpose of allowing a load force to be taken at a gradually increasing rate, thus preventing sudden shock or strain in the system. The disclosure and figure in Zoino does not disclose a stair step profile. Rather, it discloses ridges (58). It does not disclose the structure claimed in the present invention and would not function in the same way as described in the present invention.

Claims 15-17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Giandinoto in view of Zoino. It is contended that Zoino teaches at least one of the stopping faces (27) embodied as a cone-shaped shape and having stair steps. Again, it is respectfully contended that Zoino does not disclose stair steps.

Claim 22 is rejected under 35 U.S.C. §103(a) as being unpatentable over Giandinoto in view of Gunner. It is contended that Gunner teaches at least one stopping face (41) having a saw-tooth profile. Again, it is respectfully contended that Gunner does not disclose a saw-tooth profile, but rather a sine wave profile.

While it is contended that U. S. Patent No. 4,212,379 (Zoino) discloses a stopping face (27) embodied as a cone shape having stair step (58), Zoino does not operate to resist an axial force from a shaft in the manner of the subject invention. It is also respectfully contended that there is no suggestion or motivation to combine the steps of Zoino into the structure of Giandinoto in a manner that would operate similarly to the subject invention.

It is therefore contended that the rejection of the claims under 35 U.S.C. §102 and 35 U.S.C. §103 are no longer applicable to the claims as amended. It is also respectfully contended that the rejections under 35 U.S.C. §112 have also been overcome by the amendments to the claims.

CONCLUSION

In light of the foregoing, Applicants respectfully submit that claims 1-18 and 20-28 as currently amended are allowable and such allowance is hereby requested.

The undersigned is available for telephone consultation during normal business hours.

Respectfully submitted,



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